

## Particulate Respirator Table

Measured Concentration of PMN Substance	Required Respiratory Protection
$\leq$ NCEL	No respiratory protection is required
$\leq 10 \times$ NCEL	<p>(I) Any NIOSH-certified air-purifying elastomeric half-mask respirator equipped with N100 (if oil aerosols absent), R100, or P100 filters.</p> <p>(II) Any appropriate NIOSH-certified N100 (if oil aerosols absent), R100, or P100 filtering facepiece respirator. [Note: for filtering facepieces, an APF of 10 can only be achieved if the respirator is qualitatively or quantitatively fit tested on individual workers].</p> <p>(III) Any NIOSH-certified air-purifying full facepiece respirator equipped with N100 (if oil aerosols absent), R100, or P100 filters. A full facepiece air-purifying respirator, although it has a higher APF of 50, is required to provide full face protection because the PMN substance presents significant exposure concern for mucous membranes, eyes, or skin.</p> <p>(IV) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a half-mask. [</p> <p>(V) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a half mask.</p>
$\leq 25 \times$ NCEL	<p>(I) Any NIOSH-certified powered air-purifying respirator equipped with a hood or helmet and HEPA filters.</p> <p>(II) Any NIOSH-certified powered air-purifying respirator equipped with a loose fitting facepiece and HEPA filters.</p> <p>(III) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet.</p> <p>(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece.</p>
$\leq 50 \times$ NCEL	<p>(I) Any NIOSH-certified air-purifying full facepiece respirator equipped with N100 (if oil aerosols absent), R-100, or P-100 filter(s).</p> <p>(II) Any NIOSH-certified powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and equipped with HEPA filters.</p> <p>(III) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a half-mask.</p> <p>(IV) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.</p> <p>(V) Any NIOSH-certified continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).</p>
$\leq 1000 \times$ NCEL	<p>(VI) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.</p> <p>(I) Any NIOSH-certified powered air purifying full facepiece respirator equipped with HEPA filters.</p>

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

(II) Any NIOSH-certified powered air-purifying respirator equipped with a hood or helmet\* and N100 (if oil aerosols absent), R100, or P100 filters with evidence demonstrating protection level of 1,000 or greater.

(III) Any NIOSH-certified continuous flow supplied-air respirator equipped with a full facepiece.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet with evidence demonstrating protection level of 1,000 or greater.

(V) Any NIOSH-certified supplied-air respirator equipped with a full facepiece.

\* OSHA has assigned APFs of 1000 for certain types of hoods and helmets with powered air purifying respirators (PAPRs) or supplied air respirators (SARs) where the manufacturer can demonstrate adequate air flows to maintain positive pressure inside the hood or helmet in normal working conditions. However, the employer must have evidence provided by the respirator manufacturer that the testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a Workplace Protection Factor (WPF) or Simulated Workplace Protection Factor (SWPF) study or equivalent testing. Without testing data that demonstrates a level of protection of 1,000 or greater, all PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

Any NIOSH-certified pressure-demand or other positive pressure mode (max. 10,000 x (e.g., open/closed circuit) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.

> 1000 x NCEL  
(max 10,000 x NCEL)

[Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator.]

[Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator.]

Gas/Vapor

**If Data on Cartridge Service Life Testing has been Reviewed and Approved**

Measured Concentration of PMN Substance

---

$\leq$  NCEL

$\leq 10 \times$  NCEL

$\leq 25 \times$  NCEL

$\leq 50 \times$  NCEL

### Required Respiratory Protection

---

No respiratory protection is required

(I) Any NIOSH-certified air-purifying half mask respirator equipped with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges.

(II) Any NIOSH-certified powered air-purifying respirator with a hood or helmet and with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges.

(III) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a half-mask.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece, hood, or helmet.

(V) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a half-mask.

(I) Any NIOSH-certified powered air-purifying respirator with a hood or helmet equipped with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges.

(II) Any NIOSH-certified powered air-purifying respirator equipped with a loose fitting facepiece with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges.

(III) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece.

(I) Any NIOSH-certified air-purifying full facepiece respirator equipped with appropriate gas/vapor cartridges or canisters (acid gas, organic vapor, or substance specific).

(II) Any NIOSH-certified powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and appropriate gas/vapor cartridges or canisters (acid gas, organic vapor, or substance specific).

**If No Cartridge Service Life Testing has been Conducted**

---

---

Measured Concentration of PMN Substance

---

---

 $\leq \text{NCEL}$ 

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

 $\leq 10 \times \text{NCEL}$ 

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

 $\leq 25 \times \text{NCEL}$  $\leq 50 \times \text{NCEL}$

### Required Respiratory Protection

---

No respiratory protection is required

(I) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece, hood, or helmet.

(II) Any NIOSH-certified negative pressure (demand) supplied-air respirator (half-mask or full facepiece).

(III) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a half-mask.

Note to Program Manager: If a concern exists for eye/skin

exposure from the chemical, delete the half facepiece respirator

Note to Program Manager: If a concern exists for eye/skin

exposure from the chemical, delete this respirator

(I) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece, hood, or helmet.

(II) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.

(I) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.

Note to Program Manager: If a concern exists for eye/skin

(II) Any NIOSH-certified continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

exposure from the chemical, delete the half facepiece respirator



$\leq 1000 \times \text{NCEL}$

$> 1000 \times \text{NCEL}$   
(max 10,000 x NCEL)

(III) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

(V) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

(VI) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a hood, helmet, or a full facepiece.

(I) Any NIOSH-certified powered air purifying full facepiece respirator equipped with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges.

(II) Any NIOSH-certified powered air-purifying respirator equipped with a hood or helmet and appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges with evidence demonstrating protection level of 1,000 or greater. \*

(III) Any NIOSH-certified continuous flow supplied-air respirator equipped with a full facepiece.

IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet with evidence demonstrating protection level of 1,000 or greater. \*

VI) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a full facepiece.

Any NIOSH-certified pressure-demand or other positive pressure mode (e.g., open/closed circuit) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

$\leq 1000 \times \text{NCEL}$

[Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator.]

[Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator.]

$> 1000 \times \text{NCEL}$   
(max 10,000 x NCEL)

(III) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

(IV) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a hood, helmet, or a full facepiece.

(I) Any NIOSH-certified continuous flow supplied-air respirator equipped with a full facepiece.

(II) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet with evidence demonstrating protection level of 1,000 or greater. \*

(III) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a full facepiece.

[Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator.]

Any NIOSH-certified pressure-demand or other positive pressure mode (e.g., open/closed circuit) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.



\* OSHA has assigned APFs of 1000 for certain types of hoods and helmets with powered air purifying respirators (PAPRs) or supplied air respirators (SARs) where the manufacturer can demonstrate adequate air flows to maintain positive pressure inside the hood or helmet in normal working conditions. However, the employer must have evidence provided by the respirator manufacturer that the testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a Workplace Protection Factor (WPF) or Simulated Workplace Protection Factor (SWPF) study or equivalent testing. Without testing data that demonstrates a level of protection of 1,000 or greater, all PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.



\* OSHA has assigned APFs of 1000 for certain types of hoods and helmets with powered air purifying respirators (PAPRs) or supplied air respirators (SARs) where the manufacturer can demonstrate adequate air flows to maintain positive pressure inside the hood or helmet in normal working conditions. However, the employer must have evidence provided by the respirator manufacturer that the testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a Workplace Protection Factor (WPF) or Simulated Workplace Protection Factor (SWPF) study or equivalent testing. Without testing data that demonstrates a level of protection of 1,000 or greater, all PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.



Combination

**If Data on Cartridge Service Life Testing has been Reviewed and Approved**

Measured Concentration of PMN Substance

---

$\leq$  NCEL

$\leq 10 \times$  NCEL

$\leq 25 \times$  NCEL

$\leq 50 \times$  NCEL

## Required Respiratory Protection

---

No respiratory protection is required

(I) Any NIOSH-certified air-purifying half-mask respirator equipped with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges in combination with N100 (if oil aerosols absent), R100, or P100 filters or an appropriate canister incorporating N100 (if oil aerosols absent), R100, or P100 filters.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

(II) Any NIOSH-certified powered air-purifying respirator with a hood or helmet and with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges in combination with HEPA filters.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

(III) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a half-mask.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece, hood, or helmet.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

(V) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a half-mask.

(I) Any NIOSH-certified powered air-purifying respirator with a loose-fitting hood or helmet that is equipped with an appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridge in combination with HEPA filters.

(II) Any NIOSH-certified powered air-purifying respirator equipped with a loose fitting facepiece with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges in combination with HEPA filters.

(III) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece.

(I) Any NIOSH-certified air-purifying full facepiece respirator equipped with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges in combination with N100 (if oil aerosols absent), R100, or P100 filters or an appropriate canister incorporating N100 (if oil aerosols absent), R100, or P100 filters.

**If No Cartridge Service Life Testing has been Conducted**

Measured Concentration of PMN Substance

---

$\leq$  NCEL

$\leq 10 \times$  NCEL

$\leq 25 \times$  NCEL

$\leq 50 \times$  NCEL

Required Respiratory Protection

---

No respiratory protection is required

(I) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece, hood, or helmet.

(II) Any NIOSH-certified negative pressure (demand) supplied-air respirator (half-mask or full facepiece).

(III) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a half-mask.

(I) Any NIOSH-certified continuous flow supplied-air respirator equipped with a loose fitting facepiece, hood, or helmet.

(II) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.

(I) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete this respirator

$\leq 1000 \times \text{NCEL}$

$> 1000 \times \text{NCEL}$   
(max 10,000 x NCEL)

(II) Any NIOSH-certified powered air-purifying respirator with a tight-fitting facepiece (half or full facepiece) equipped with appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridges in combination with HEPA filters.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

(III) Any NIOSH-certified negative pressure (demand) supplied-air respirator equipped with a full facepiece.

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

(V) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

(VI) Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.

(I) Any NIOSH-certified powered air purifying full facepiece respirator equipped with an appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridge in combination with HEPA filters.

(II) Any NIOSH-certified powered air-purifying respirator with a loose-fitting hood or helmet that is equipped with an appropriate gas/vapor (acid gas, organic vapor, or substance specific) cartridge in combination with HEPA filters with evidence demonstrating protection level of 1,000 or greater. \*

(III) Any NIOSH-certified continuous flow supplied-air respirator equipped with a full facepiece.

Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator

(IV) Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet *with evidence demonstrating protection level of 1,000 or greater.* \*

(V) Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a full facepiece.

Any NIOSH-certified pressure-demand or other positive pressure mode (e.g., open/closed circuit) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.

Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator

$\leq 1000 \times \text{NCEL}$

$> 1000 \times \text{NCEL}$   
(max 10,000 x NCEL)



(II)Any NIOSH-certified continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

(III)Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece).

(IV)Any NIOSH-certified negative pressure (demand) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.

(I)Any NIOSH-certified continuous flow supplied-air respirator equipped with a full facepiece. [provides eye/face protection].

(II)Any NIOSH-certified continuous flow supplied-air respirator equipped with a hood or helmet *with evidence demonstrating protection level of 1,000 or greater.* \*

(III)Any NIOSH-certified pressure-demand or other positive pressure mode supplied-air respirator equipped with a full facepiece.

Any NIOSH-certified pressure-demand or other positive pressure mode (e.g., open/closed circuit) self-contained breathing apparatus (SCBA) equipped with a hood or helmet or a full facepiece.

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

Note to Program Manager: If a concern exists for eye/skin exposure from the chemical, delete the half facepiece respirator

Note to Program Manager: Copy and paste the \* and the footnote below the table when selecting this respirator

cepiece. [provides eye/face protectior



\* OSHA has assigned APFs of 1000 for certain types of hoods and helmets with powered air purifying respirators (PAPRs) or supplied air respirators (SARs) where the manufacturer can demonstrate adequate air flows to maintain positive pressure inside the hood or helmet in normal working conditions. However, the employer must have evidence provided by the respirator manufacturer that the testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a Workplace Protection Factor (WPF) or Simulated Workplace Protection Factor (SWPF) study or equivalent testing. Without testing data that demonstrates a level of protection of 1,000 or greater, all PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.



\* OSHA has assigned APFs of 1000 for certain types of hoods and helmets with powered air purifying respirators (PAPRs) or supplied air respirators (SARs) where the manufacturer can demonstrate adequate air flows to maintain positive pressure inside the hood or helmet in normal working conditions. However, the employer must have evidence provided by the respirator manufacturer that the testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a Workplace Protection Factor (WPF) or Simulated Workplace Protection Factor (SWPF) study or equivalent testing. Without testing data that demonstrates a level of protection of 1,000 or greater, all PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

